American Vegetable Grower

OCTOBER • 1954

BETTER CROPS WITH MECHANIZATION

FERRY-MORSE'S NEW HYBRID SWEET CORN

ForeMost Y-1 (F-M Cross)

We cannot remember when any Ferry-Morse introduction gained such rapid and widespread acceptance as this new Yellow Hybrid Sweet Corn. Market growers and shippers all over the country tell us this hybrid combines all the qualities they have been looking for—

EARS—Big. 7½" to 8" long with 14 to 16 rows of kernels. Held well off ground.

KERNELS—Creamy golden. Extremely tender skin and high sugar content.

PLANTS—6½ feet tall. Sturdy. Wilt-resistant.

HUSKS AND FLAG LEAVES—Heavy, tight husks well wrapped over tip.

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Entered as second-class matter at Post Office at Willoughby, Ohio under the Act of March 3, 1879. Additional entry at Crawfordsville, Indiana

LETTERS TO THE EDITOR

Huller for Peas and Lima Beans

Dear Editor:
Could you tell me where I could buy a huller for green peas and lima beans? I would not want a large machine.
Gurley, Ala. R. A. Giler

Contact the Dixie Canner Company, Athens, Ga., or the A. K. Robins & Company, Inc., 713 E. Lombard St., Baltimore, Md., and The Sinclair-Scott Company, 6245 State Rd., Philadelphia 35, Pa.—Ed.

Glamorize the Potato

Dear Editor:
I very much enjoyed reading the article, "It Pays to Glamorize the Potato" by Charles H. Merchant in the August issue. I believe that revolutionizing the packaging of potatoes will increase the popularity of the lowly spud.
I have noticed, too, that more and more people are preferring the smaller size package units; that is the five- and 10-pound. Either of these two sizes is much easier for the housewife to handle than the 25-pound package with which she had to wrestle before.
Orono, Maine R. L. Hancock

Dear Editor:
I am certainly happy to hear that people are becoming potato-packaging conscious. Now, we should see neater displays of potatoes at our retail markets—displays that will compare with those of other vegetable products.
Benton Harbor, Mich. J. C. Duncan

Tips on Roadside Marketing

Dear Editor:
At various times you have published articles on roadside marketing, and I thought perhaps readers would be interested in some of the following tips which we have practiced for a good many years.
The vegetable grower who makes money in the next few years is the one who raises and sells the best products to the best advantage. A good business can be built on this idea. Why not locate your modest roadside stand or salesroom on a well-traveled road where it can be seen easily and where people will not pass it up.
A fair price and good advertising will bring customers—then it's up to you to sell and make the customer want to stop again. Every bushel sold in summer this way means one less to put in storage and will thus mean more profit.
Display your products to advantage and they will sell themselves. I have been selling by this method for the last 25 years and have sold both retail and wholesale. The direct, farmer-to-customer sale is to be strongly recommended because it creates a market and, at the same time, a demand for the product. The sale of high grade products to customers who have learned to come in a car for them gives us a much greater profit and the customer benefits by a price slightly under the retail level for a higher quality product than he can get at a store in the city.
Also, if your products sell well at the farm you can take them to a store and advertise that the same fine quality can be bought at such and such a store. Thus, both you and the store will profit by the good will your farm stand makes.
We also sell by mail. However, in selling by mail, shipping cost is a factor, and the tendency is to overcharge just because the package is fancy. If one's price is based on cost plus a reasonable profit—and postage—your customer will feel that you have done well by him.
Be business-like, be honest, and you will certainly make profit from direct sales. And you will have a regular business from all your old customers, and they in turn will bring you new ones.
Trenton, N. J. Mrs. J. S. Jones

Disinfect Sweetpotato Storages

Dear Editor:
I thought perhaps some of your sweetpotato growing readers would be interested to learn how we disinfect our storages each year before storing our sweetpotatoes.
I have found that sweetpotato and also other vegetable storages should be disinfected before the produce is stored to prevent difficulties after the crops are in storage. I have found that fumigation is the best means of controlling diseases in storage. The fumigation recommended in New Jersey is a program in which formaldehyde and potassium permanganate are used. Copper sulfate also can be used at the rate of 10 to 15 pounds of crystals to 100 gallons of water. The interior of the storage should be soaked thoroughly.
However, a very good spraying job is not as good as fumigation. In fumigating, all doors and openings should be closed tightly. Then the potassium permanganate crystals should be placed in large containers, such as old five gallon cans, and placed around the interior of the storage. We use 23 ounces of potassium permanganate for each 1,000 cubic feet of storage space. We then measure out three pints of formaldehyde and place it in another container beside the large one containing the 23 ounces of permanganate.
Then we start fumigating at the point which is the greatest distance from the outlet door and pour the formaldehyde into the can containing the crystals. We are careful not to breathe any fumes and move as quickly as possible toward the door. We leave the building closed tight for at least 24 hours, then we open the building and air it for at least 10 days before putting in any potatoes.
Hammonton, N. J. James Shoemaker

Success in Prepackaging

Dear Editor:
Hats off to the Hellwig Brothers of Gumbo, Mo.! They are really doing an excellent job with their packaging enterprise. This is one good example of how progressive growers can get ahead.
Columbia, Mo. L. B. Jacobs

American
VEGETABLE GROWER
REG. U. S. PAT. OFF.
(Commercial Vegetable Grower)

Vol. 2 October 1954 No. 10

FEATURED IN THIS ISSUE

Cover Photograph by Gladys Diesing

Potato Top Beater 4
Speed Your Harvesting with a Field Conveyor 5
By Harry J. Hofmeister
Quality Vegetables . . . Easier, Faster, Cheaper 6
By Eldon S. Banta
Precision Planting Means Better Crops 8
By J. O. Young
Applying Soil Conditioners 10
New Spray Halts Disease.....11
Pick Your Stones by Machinery....12
By F. W. Peikert
"Planting" Bean Poles.....13
Untouched by Hand! 14
By Robert A. Kepner
Carrot Harvester 17

DEPARTMENTS

Letters to the Editor
Calendar of Coming Meetings and Exhibits
State News
New for You
Editorial Page

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E. G. K. MEISTER
Publisher

Editorial Staff
R. T. MEISTER — ELDON S. BANTA
E. K. GOULD — M. A. FRAZIER
R. L. CAROLUS — M. P. RASMUSSEN
H. B. TUKEY

Advertising Manager
EDWARD L. MEISTER

BRANCH OFFICES AND REPRESENTATIVES
CHICAGO, Peck and Billingslea, Inc., 185 No. Wabash. Phone—Dearborn 2-0292
NEW YORK, Martin-Snow Co., 140 E. 46th St. Phone—Plaza 5-0878
PHILADELPHIA, Clayton S. Staley, Jr., 1138 Lincoln Liberty Bldg. Phone—Locust 7-7448
SAN FRANCISCO, McDonald-Thompson, 625 Market St. Phone—Yukon 6-0647
LOS ANGELES, McDonald-Thompson, 3727 West 6th St. Phone—Dunkirk 7-5391
SEATTLE, McDonald-Thompson, 1008 Western Ave. Phone—Elliot 3767
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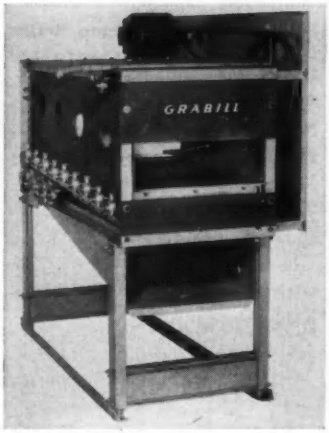
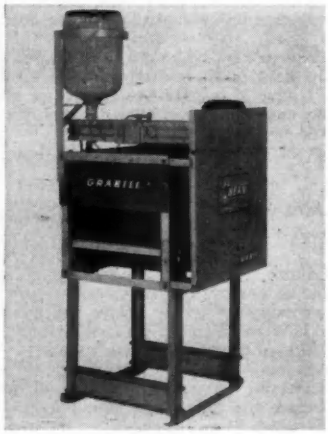
New John BEAN Cleaning-Waxing LINE features more models, lower costs

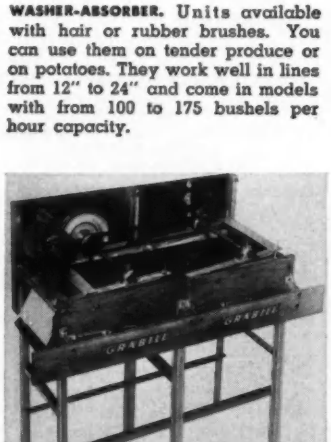
Clean, polished produce gets premium prices in any market. Heretofore, the equipment for washing, cleaning and waxing was not designed for small volume. Now! John Bean has expanded its line and offers equipment for all requirements. And John Bean has reduced prices on this equipment. Write for information on how you can make more profits with clean — polished produce.



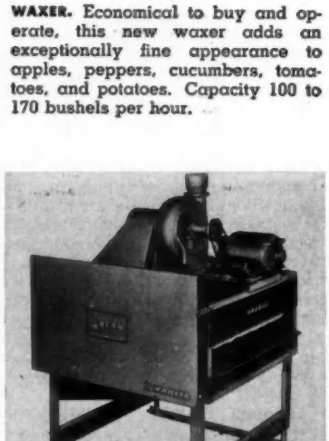
WASHER-ABSORBER. Units available with hair or rubber brushes. You can use them on tender produce or on potatoes. They work well in lines from 12" to 24" and come in models with from 100 to 175 bushels per hour capacity.



WAXER. Economical to buy and operate, this new waxer adds an exceptionally fine appearance to apples, peppers, cucumbers, tomatoes, and potatoes. Capacity 100 to 170 bushels per hour.



CUB BRUSHER. This series was designed specifically for the low-cost field. Used with the popular "Cub" grader, it enables the smaller grower to efficiently and economically clean his fruit and vegetables.



TWO-WAY CLEANER. Equipped with horsehair or rubber brushes, designed to clean from 60 to 420 bushels per hour. The soft cloth buffers can clean tender vegetables and fruit, or they can handle onions and potatoes.

fmc John BEAN DIVISION OF FOOD MACHINERY AND CHEMICAL CORPORATION
LANSING 4, MICH. • SAN JOSE, CALIF.

Vine beating on a Matanuska Valley farm.

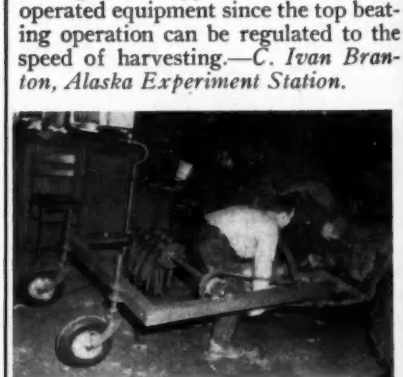
POTATO TOP BEATER

LUXURIANT growth of potato vines at harvesttime in Alaska interferes with digging to such an extent that research work on both chemical and physical methods of vine removal has been carried on by the Alaska Experiment Station. An experimental single-row potato top beater was constructed for use in connection with this problem. It was an improvement on a design by two local growers, Ralph Bradley and Herbert Holstein.

The single-row beater which was effective in removing vines, weeds, and quackgrass is shown below under construction in a local machine shop. Rubber flails, obtained from a manufacturer of a two-row beater, were shortened over center of potato row to adjust to shape of hilled row.

It was found that a minimum width of flails was 26 inches for a single row and that for satisfactory results the beater shaft should rotate at 700 rpm. Experience indicated that the drive to the beater should consist of four V section "B" belts. When operating at 700 rpm in heavy vines or on a grade the machine appeared to load a Farmall H.

Leaving the vine cover over the potatoes to protect them from frost is of vital concern to Alaskan growers. For this reason a farmer-owned beater has greater appeal than custom-operated equipment since the top beating operation can be regulated to the speed of harvesting.—*C. Ivan Branton, Alaska Experiment Station.*



Single row beater under construction. Note adjustable wheels, pivot point behind tractor.

Speed Your Harvesting with a FIELD CONVEYOR

- **Here is a machine that helps to harvest your vegetable crops from 30 to 100 per cent faster**
- **You can use children or old folks—it makes picking that much easier**
- **At peak picking 35 acres of tomatoes can be harvested in five days by six men**

By HARRY J. HOFMEISTER
University of Maryland

Self-propelled field conveyor is shown above in tomato field. Movement of conveyor is controlled by foreman at right who also controls handling of the full and empty baskets, thus reducing field damage to the tomatoes to a minimum.

IN recent years most vegetable growers have not been able to hire sufficient labor to harvest their crops. This has resulted in decreased acreage and the wasting of tons of vegetables because of lack of time and labor to harvest them at the marketable stage of growth. To assist the grower who has average-sized acreage the department of agricultural engineering at the University of Maryland has developed a field conveyor for harvesting vegetables.

This machine is a self-propelled belt conveyor which straddles vegetable crop rows growing less than three feet high while the pickers walk behind the machine and harvest the crop. The harvest is placed on the belt and transported to one end of the machine where it drops into the basket, crate, or box.

The machine actually eliminates all basket carrying by the pickers. Tests have shown that on most vegetable crops, especially tomatoes for which the machine was originally designed, at least 50 per cent of the picker's time is spent carrying baskets along the row, getting empties, and carrying full baskets to the pick-up rows. On ripe and green tomatoes, the rate of harvesting with the conveyor was increased from 30 to 100 per cent depending on the picking ability of the crew. In addition, pickers picked better quality fruit and did much less damage to the plants. Field damage due to the machine was negligible.

The conveyor shown in the picture is a 30-foot model covering five six-foot rows of canning tomatoes in one trip across the field. At the end of the field one driving wheel is stopped and the machine pivots about this wheel for the return trip over the next five rows. This results in a pick-up row every 10 rows. Without any substantial change in design this machine could be built to cover seven rows six feet apart or 14 rows on a round trip.

Co-operation and teamwork determine the successful operation of the conveyor. Pickers must work together to obtain the benefits of using the machine. The key man for the operation is the crew foreman or the man controlling the machine. This man operates the controls (which are simple, consisting of only three levers and the engine throttle), removes the full baskets, and replaces with empties. He also helps to control quality by watching what pickers are placing on the belt.

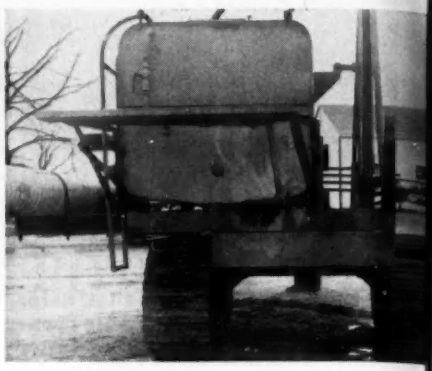
Notwithstanding the fact that the quantity harvested in a day's time is much greater, pickers are less tired and require fewer breaks than when picking by hand. In fact, when pickers first use the machine they complain that it seems slower since they do not work so hard. But this thought is quickly dissipated when the baskets are counted.

Usually a four- to seven-man crew is used depending on the crop being harvested. A six-man crew picked 90 baskets of tomatoes by hand while in the same period of time the same crew picked 163 using the conveyor. On another field with a different six-man crew the ratio was 128 to 236 baskets in favor of the machine. A crew of four men at the beginning of the tomato season when the yield was only 15 baskets per acre covered 45 acres in three and three-fourths working days. Seven men averaged 46 fifty-pound crates of cabbage per hour, cut, trimmed, and crated for shipping right in the field.

The conveyor has been tested on green and ripe tomatoes, cucumbers, pickles, broccoli, cabbage, paste to-

(*Continued on page 15*)

Ernest L. Munter, chief engineer at Gehring Farms, rides the Tillivator in onions. Ernie has developed many pieces of equipment and adapted others for special uses. This Oliver HG is equipped with an F-162 Continental engine to give more power for certain types of jobs.



View shows how tank of big sprayer is offset counterbalance weight of big boom. Left track is inches, right 36 inches wide. Wide tracks are necessary to prevent the sprayer from sinking into

QUALITY VEGETABLES. Easier, Faster, Cheaper

Indiana's Gehring Farms set the pace with mechanized efficiency

By ELDON S. BANTA

MECHANICAL developments and improvements are some of the gateways to better and more efficient vegetable production. This is true whatever the size of the farming operation. Choose an area of vegetable growing, packing, or storing and you discover the evolution of implements and devices on every hand.

You might say the theme of this mechanical age is "efficiency." If so, then we are striving to put on the market each pound of vegetables with fewer hours of labor, less cost, and less damage to quality and condition. This seems to be a significant objective in an era of technology. By staying abreast of changes and developments, the progressive grower finds himself in a better position to bargain in the market places of the land.

To illustrate the theme, let's take a quick visit to a large, modern, vegetable farm in the mucklands of northwestern Indiana. We could make our visit to many others and find similar mechanical developments, but this one is certainly remarkable in its changes.

A few miles north of Rensselaer, Ind., lies the 5,500-acre farm of Wm. Gehring, Inc., mostly on muck but some of it on sandy loam. Vegetables grown include 1,200 acres of potatoes and 140 acres of onions; the remainder of the land is devoted to growing mint, field corn, and wheat.

To operate his farm Mr. Gehring uses a fleet of 62 tractors of all sizes and makes, plus a wide range of planting, tillage, spraying, and harvesting equipment. Some implements are used just as purchased, but many are changed to fit special growing or harvesting conditions. In addition, other implements and devices have been built on the farm.

To maintain and promote the mechanical phase of a farm of this nature and magnitude requires two major features: 1) an interested and enterprising engineer, and 2) a shop that is fully equipped and manned by good mechanics.

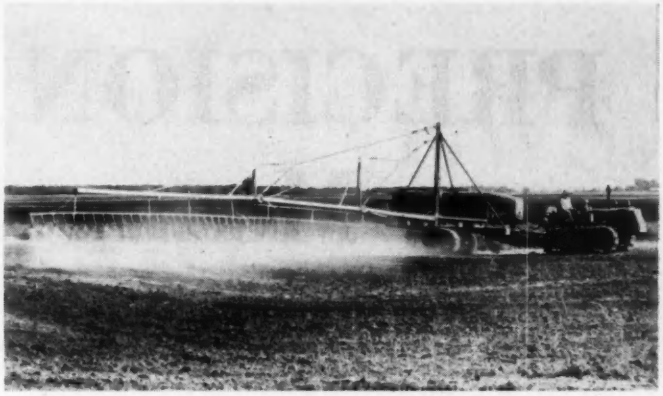
Not only must changes be made and new devices developed, but tractors and equipment must be maintained in efficient operation. This is where the well-equipped shop plays such a major role. Overhaul and maintenance jobs can be done quickly and properly, thus reducing the time that a machine will remain idle.

Directing Mr. Gehring's engineering work is Ernest L. Munter, a likable man with lots of ability. To him goes credit for the development of many devices and pieces of equipment on the farms. The brisk, diligent manner in which Munter and Gehring approach a problem soon brings it under control.

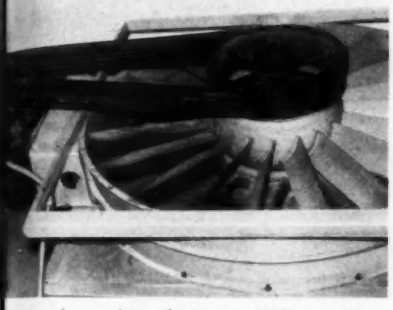
On these pages you will see some of the mechanical changes that have taken place on the Gehring farms, and why they were made. Perhaps there is a way of doing a job here that might fit your farm or with some revision will accommodate it to your special conditions.

THE END

Potato harvester digs two rows at a time. To speed harvesting on the 1,500 acres, other diggers dig adjacent rows and windrow potatoes on top of two under harvester. Thus four or six rows can be loaded at one time. Harvester is mounted on IHC T-6 crawler tractor. One man operates machine, and two are in use. Bags are not needed for loading in field.

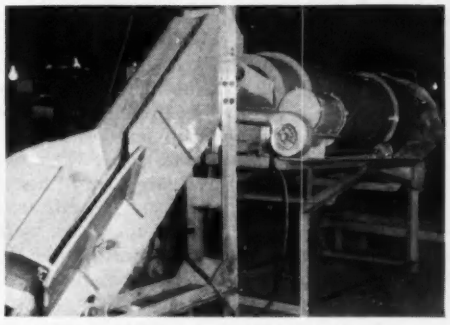


Bean sprayer was adapted for large-scale work. The 65-foot boom with nozzle every foot covers 48 rows to a round. Boom was built and sprayer remodeled in Gehring shop. Big advantages of large capacity machine: Labor reduced 50 per cent; less time to cover a given acreage; less soil compaction because of fewer trips. Loaded, machine weighs 19,500 lbs.

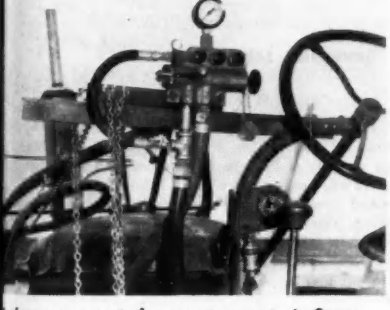


tricity plays a big role. Here a 40 h.p. motor a fan sending 72,000 cubic feet of air per ute through bulk onion storage for curing.

Metal 80,000-bushel onion storage is supported by Stran-Steel trusses. Interior is five-eighths-inch plywood, two inches Sisalation for insulation.

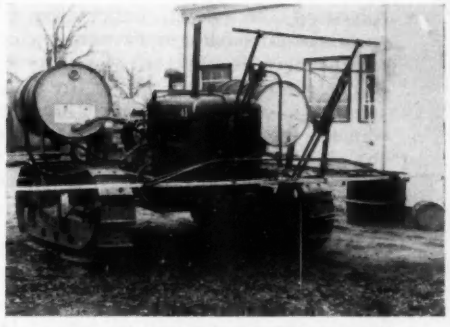


Gehring-built seed treater was used in 1954 to treat potato seed pieces with captan and gypsum which prevents spoilage and sliminess.

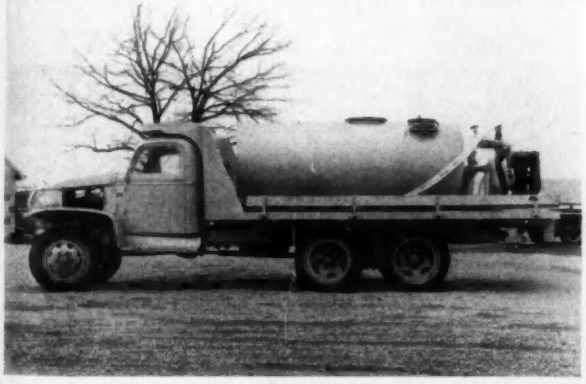


d sprayer controls are at operator's finger-. Meter at gear shift knob tells total hours tor is used; lubrications made accordingly.

The "field shop" is equipped with derrick and hoist. Two mobile field shops on Gehring farms have electric welders. Trucks are army surplus.



Onion weed sprayer is mounted on an Oliver HG crawler tractor. Boom covers 10 rows of onions. Herbicides have reduced hand weeding.



Capacity of tank on tender truck for big Gehring sprayers is 1,000 gallons. Materials are mixed in at filling time. Pump empties mix into sprayer quickly. There is one tender for each of the sprayers.

Four-row Oliver potato planters on Gehring farms are equipped with large-size wheels and tires. Larger tires permit more even floating of the planter and more uniform planting of potato seed pieces.

PRECISION PLANTING Means Better Crops

Need for uniform maturity in crops for processing spurs canners to take active part in equipment development

By J. O. YOUNG
Libby, McNeill & Libby

THE Raw Products Technical Advisory Subcommittee of the National Canners Association undertook, in the fall of 1952, in co-operation with the Farm Equipment Institute, a program for the development of more precise seeding equipment for vegetables. The first step taken by the committee was to formulate a set of agronomic specifications for the required equipment. These specifications were forwarded to agricultural engineers through the co-operation of the Farm Equipment Institute.

Subsequently, meetings have been held jointly by representatives of the farm machinery industry at which time spokesmen for the canners emphasized the special importance of precision in seeding operations owing to the need for uniform maturity in crops grown for processing. In these meetings various engineers brought out the fact that planters can be made to almost any reasonable agronomic specifications. However, the more rigid the specifications the higher the cost.

As a result of these early meetings it was decided that the next step should be to develop a precision mechanism for the seeding of peas. The proposed seeder should be able to place seeds uniformly in the row at a uniform depth and with control over the degree of soil compaction. As an accessory desirable feature the machine should be capable of handling fertilizer in small or large amounts at strategic locations with respect to the seed.

The farm machinery industry undertook the development of such a machine. Experimentation was underway in 1953 in machine shops and it is anticipated that in 1954 several experimental machines will be available for field testing. The outcome of this work cannot as yet be foreseen. If it proves possible to develop and manufacture an improved seeder for peas which will accomplish the precision objectives at reasonable cost it would seem reasonable to extend the principles to a variety of crops. THE END

PRECISION PLANTERS SPACE-PLANT SEEDS—SAVE TIME, LABOR, AND MONEY

A precision planter for use in their extensive vegetable plant farms in Georgia, developed by Schroer Plant Farms, is shown above. According to Raymond Sheldrake, Jr., Georgia extension vegetable specialist, the machine applies fertilizer and seed for five rows simultaneously. About 600 pounds of a 4-8-6 fertilizer are used and the seed is planted approximately five-eighths inch deep, at the rate of about 25 seeds per foot. A flat stainless steel plate in front of the opening shoe slides over the soil, thus leaving a uniformly level surface so that all seeds are covered to the same depth, insuring uniform plant development.

The check row or hill-drop tomato seed planter (below), a development of John Powell, Kokomo, Ind., makes cross cultivating possible and permits pickers to work crosswise between the rows, saving time and labor in carrying loaded hampers. Since seed distribution is controlled, thinning of plants is practically eliminated. In operation, the planter deposits fertilizer to desired depth at the hill, covers the fertilizer well with soil, drops seed directly above and covers it lightly with soil, then applies vermiculite to conserve moisture. If desired, fertilizer can be deposited continuously along the row. Vermiculite tank is not shown in the photograph below but it mounts just to the rear of the fertilizer cans.

STATE NEWS

- **Maine Potato Crop Cut by Hurricane Winds**
- **Louisiana Has Two New Shallot Varieties**

MAINE—The Maine potato crop may be cut as much as 10 per cent by high winds and rains from Hurricane Edna. This is the report from Bryce M. Jordan, head of the Maine Potato Growers Association. He estimated the potato crop at 46 million to 47 million bushels. The government forecast of September 12 had called for 51,450,000 bushels.

"Just as 1953 was the worst year financially for Aroostook potato growers, 1954 has been the worst weather year that even the oldest growers can remember," he said. Edna's downpour will postpone digging a week, reduce yields in flooded fields, and may result in heavy shrinkage of the potatoes while in storage.

Meanwhile, growers were advised that killing potato tops early and thoroughly will help prevent blight rot in storage. This was the word from Paul N. Mosher, extension service crops specialist of the University of Maine. Maine Extension Service Circular 278 gives details on topkilling.

Dr. Donald Folsom, head of the department of plant pathology at the University of Maine, was recently presented with an honorary life membership in the Potato Association of America, for his research on potato disease.

NEW HAMPSHIRE—Hurricane winds and over four inches of rain on August 31 laid flat whole fields of sweet corn and trellised tomatoes. Squash, beans, and potatoes also suffered. Much of these crops will be salvaged, but harvesting costs will be much more expensive.

Plans are getting under way for a gala potato festival at the Murdock Farm, in Derry Village, next May 29, the anniversary of the day the first potatoes were planted in the United States in 1719 on the same farm.

To help promote potato sales Chippa Granite, all-American farm youngster created by artist Alice Cosgrove, will appear on posters, folders, and potato bags.

A search is being conducted for the granite boulder which most resembles a giant potato, to be moved to the Murdock Farm and marked with a bronze plaque.—*Perley D. Colby, Asst. Co. Agr'l Agent, Milford.*

MICHIGAN—Bulk handling is now moving into the potato fields. The Emmet County Potato Growers Association is building a new $75,000 storage unit on U.S. 31 just south of Levering to handle their potato harvest and marketing problems. It will receive the potatoes boxed, via fork-lift trucks, for storage in one-ton pallets. Air conditioning, sorting, and grading will be part of the program.

The storage building, scheduled for October use, was the scene of a potato harvesting and storage field day on September 17.

PENNSYLVANIA—Losses during the July drought were estimated at more than $20 million for corn, hay, potatoes, tobacco, and vegetables, the State Department of Agriculture reported.

Potatoes were especially hard hit, the estimated production dropping from 12,180,000 bushels on July 1 to 11,020,000 bushels on August 1, making the smallest crop in history. Loss is estimated at $2,260,000.

At least 1,500 acres of sweet corn intended for canning and freezing were a complete loss. The total loss in sweet corn for processing was close to $500,000. Drop in production of tomatoes for canning was estimated at about $1,300,000.

ARKANSAS—Godfrey L. White, a large grower near Osceola, was killed in a hunting accident September 11. Mr. White was a vice-president of the Vegetable Growers' Association of America, and a member of the National Potato and Onion Committee. He is survived by his wife, two sons, and two daughters.

LOUISIANA—Two new, high-yielding shallot varieties have been released to certified seed growers by the department of horticultural research at Louisiana State University. Bayou Pearl, a fall shallot, and Wintergreen, a spring shallot, will be ready for sale on the open market in late 1955.

They were bred by Dr. A. E. Kehr and Dr. J. C. Miller. Further information on these new varieties can be obtained from the LSU Agricultural Extension Service, Horticultural Department, Baton Rouge.

Growers have been urged to produce high-quality shallots to meet the competition from the onion market. Joseph Montelaro, LSU agricultural extension associate horticulturist, says that they must begin with good seed, which is scarce, or good sets, which are plentiful but expensive. Irrigation will help insure the production of high-quality shallots.

Louisiana produces 90 per cent of the shallots grown in this country, with last year's shipments valued at $1,553,000. Extension Publication No. 1051, "Louisiana Shallots," can be obtained from county and home demonstration agents.

FLORIDA—The fall tomato crop in the Fort Pierce area, which is seeded in the fields, is coming up rather spottily because of lack of rain in some areas coupled with the extremely hot weather in August. In fields where rain has fallen, the tomatoes are up to a good stand.

The American Institute of Biological Sciences held its annual meeting on the University of Florida campus at Gainesville from September 5-9. More than 2,000 people attended.—*George W. Talbott, FF & VA, Orlando.*

GEORGIA—Growers are looking forward with renewed hope toward a relatively new compound of the parathion family, malathion, to replace parathion. This insecticide is reported to be much less toxic than parathion to man and other warm-blooded animals. Therefore, the danger to the grower is not so great and the residue hazard is much reduced. Malathion is currently available as a four or five per cent dust, a 25 per cent wettable powder, and a 50 per cent liquid emulsifiable concentrate.

(Continued on page 10)

Palm Beach, Fla., County Agent Marvin U. Mounts is proud of his new offices which were completed a short time ago. Known as the Agricultural Center, the building shown above has offices for the county agent, county home demonstration agent, assistants, and county agricultural stabilization and conservation manager. Model kitchen and 200-seat auditorium with plenty of parking space are included. Palm Beach County is the fifth most important vegetable producing county with 65,189 acres. In 1949 the county harvested over $13½ million worth of vegetables. It is the leading county in the United States in the production of green beans. Mr. Mounts also is president of the Florida State Horticultural Society.

STATE NEWS

(Continued from page 9)

There is still much to be learned about malathion. It looks good, however, for most aphids and spider mites, cabbageworms, cabbage loopers, and Mexican bean beetles.

Time intervals between the last application and harvest as suggested by USDA are seven days for eggplant and pepper and 10 days for cabbage, broccoli, kale, mustard, turnips, beans, and tomatoes.—*C. R. Jordan, Ext. Ento., Athens.*

DELAWARE—Delus is the name of a new variety of potato recently introduced by the USDA and the Delaware Experiment Station. It will be in limited supply next year for testing purposes.

In field trials the new potato averaged 10 to 12 bushels of tubers more per acre than the standard varieties Irish Cobbler and Katahdin, according to Eugene P. Brasher, Delaware research horticulturist.

Delus is medium to late in maturity and is resistant to late blight. In appearance it is roundish, with light skin, shallow eyes, and white flesh. It has superior quality for all-purpose cooking, being mealy enough to bake well.

Efficient methods of storing white potatoes in the New Jersey, Long Island, and southeastern Pennsylvania area are presented in a new USDA publication, "White Potato Storages for New Jersey, Long Island and Southeastern Pennsylvania," Marketing Research Report No. 70. Single copies of the report, which includes design and layout of storage structures, are available from the Marketing Information Division, Agricultural Marketing Service, U.S. Department of Agriculture, Washington 25, D.C.

WISCONSIN—According to research, maleic hydrazide, properly applied to growing potato vines late in the season, will prevent the tubers harvested from such treated fields from sprouting in storage. Research at the Wisconsin Experiment Station has shown that treated potatoes can be kept as late as June following harvest if the chemical is properly applied. The length of time sprouting will be prevented depends on the amount of maleic hydrazide used, timing, and the variety of potato in question.

According to the best information available at present, it is suggested that five pounds of MH-40 (40 per cent maleic hydrazide) be applied per acre in 100 gallons of water. Best results have been achieved when the chemical is sprayed on the vines four weeks before harvest.

This treatment, of course, *should not be used* on potatoes which are intended for *seed purposes.—John A. Schoenemann, Ext. Veg. Spec., Madison.*

CANADA—PORT DOVER, ONT.—A mechanical sweet corn harvester, believed to be the first one in use in Canada, is gobbling up the ears at a rate of 1,700 bushels a day on a farm near this Lake Erie town.

The machine was built to specifications for Karl Weselan after he saw one in operation in Florida. C. Wardell was the builder.

The harvester is manned by a crew of 45, working on the machine or just ahead of it. The corn is picked, tossed on a conveyor belt, packed into crates and taken by truck to a nearby cooler. Three minutes after an armful of corn is picked, it is in the crate.

The cooling unit was built at a cost of several thousand dollars. Says Weselan, "Pre-cooling enables shipping over longer distances without danger of spoilage in transit, and thus widens the scope of distribution and insures faster turnover."—*George E. Toles.*

Reid

Engine, gear pump unit, and container of liquid soil conditioner are mounted on rear of tractor.

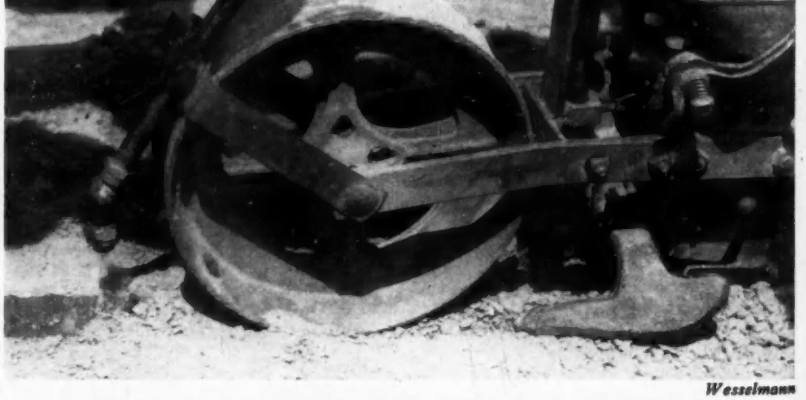
Applying Soil Conditioners

Applicator is mounted on tractor with seeder unit

A QUICK, efficient way of applying soil conditioners over seeds at planting time has been developed at the New York State Agricultural Experiment Station, Geneva, by N. H. Peck of the division of vegetable crops.

Low pressure spray equipment is used. A small engine and gear pump unit, with a supply tank, are mounted on the rear of the tractor. A supply line carries the liquid soil conditioner to the seeder unit.

Two positions of the nozzle on the seeder are used. One position is behind the packer wheel so that a narrow band of the liquid soil conditioner is placed on the soil surface over the seeds. The other nozzle position is ahead of the packer wheel so that the liquid soil conditioner is sprayed on the soil as the furrow is closing in over the seeds. Only one nozzle is used at a time for liquid soil conditioner placement trials. THE END



Wesselmann

Photo shows nozzle in front and nozzle behind packer wheel. Nozzle behind packer wheel is operating and shows the band of soil conditioner on the soil surface.

NEW SPRAY Halts Disease

Antibiotics control costly bacterial spot in Florida

A BACTERIAL plant disease, responsible for heavy damage to the multi-million-dollar tomato and pepper crops in subtropical Florida, has been controlled for the first time with a spray of two antibiotic drugs used in human medicine, terramycin and streptomycin.

Dr. Robert A. Conover, plant pathologist at the University of Florida experiment station, has issued a bulletin to growers (No. 54-2) summarizing successful large-scale experiments conducted over two growing seasons with agri-mycin, a spray compound of the two antibiotics. The new treatment was particularly effective against bacterial spot of tomato seedlings used for transplanting.

Dr. Conover reported, "In 1953 in a large experiment in a commercial planting, agri-mycin, an agricultural formulation containing streptomycin and terramycin, gave outstanding control of bacterial spot on tomato seedlings." Ninety-five per cent of the treated plants were found usable, whereas only 27 per cent of the untreated plants could be saved.

"Beds sprayed with agri-mycin had an average of 74 per cent disease-free plants, whereas adjacent untreated beds had only 11 per cent," Dr. Conover explained. "Only five per cent of the plants in treated beds were judged unfit for use as transplants, whereas 73 per cent of those in unsprayed beds were considered worthless."

Dr. Conover said millions of seedlings grown for fall and winter row crops are often rendered unfit by the disease. In cases where less severely injured seedlings are transplanted, bacterial spot may be spread throughout the field, especially during the rainy season, he said.

Although streptomycin has been used successfully against the disease by itself, Dr. Conover pointed out that there is a "possibility that resistant strains of the bacterial spot organism may develop following continued use of streptomycin," thus destroying the effectiveness of such treatment. Experiments indicated that bacteria resistant to antibiotics is less likely to occur when terramycin is combined with the other antibiotic.

Dr. Conover reported similar success with infected pepper seedlings, although experiments were conducted on a smaller scale and are being continued.

Experimental work with antibiotics for the control of plant diseases has been carried on by the USDA, and state and university experiment stations since the fall of 1952.

Preliminary reports have indicated that a number of bacterial blights hitherto considered incurable are checked by agri-mycin. Halo blight of beans and fire blight of apples and pears have been brought under control in experimental plots at the USDA station, Beltsville, Md., the Ohio State Experiment Station, and at the University of Missouri. Preliminary success has also been reported after research on peaches, walnuts, cotton, and tobacco diseases of bacterial and fungus origin.

During the past year agri-mycin has been distributed for experimental purposes exclusively. As of July 15, 1954, it was made available to growers throughout Florida. THE END

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CALENDAR OF COMING MEETINGS & EXHIBITS

Oct. 3–5—Produce Packaging Association 4th annual conference and exposition, The Shoreham Hotel, Washington, D. C.—Robt. A. Cooper, Exec. Sec'y, 500 Fifth Ave., New York 36, N. Y.

Oct. 20–22—Florida State Horticultural Society 67th annual meeting, Miami Beach.—Ernest L. Spencer, Sec'y, Bradenton.

Nov. 2–4—Western Growers Association Annual meeting, Hotel del Coronado, Coronado, Calif. C. B. Moore, Exe. Vice-Pres., 606 South Hill St., Los Angeles 14.

Nov. 4–5—Minnesota Fruit Growers Assn., and Wisconsin State Horticultural Society joint annual meeting, Winona, Minn.—J. D. Winter, Sec'y, Minn. Assn., University Farm, St. Paul 1.

Nov. 9–11—Annual Wisconsin State Potato Show, Antigo.—Harold Simons, Sec'y, Wis. Potato Growers' Assn., Inc., Antigo.

Nov. 15–17—American Veneer Package Association, Park Sheraton Hotel, New York City. Association headquarters, 1225½ North Orange Ave., Orlando, Fla.

Nov. 17–18—Ohio Pesticide Institute winter meeting, Neil House, Columbus.—J. D. Wilson, Dept. of Plant Pathology, Ohio Exp. Sta., Wooster.

Nov. 29–Dec. 2—Vegetable Growers Association of America annual convention, Syracuse, N. Y.—Joseph S. Shelly, Sec'y, 528 Mills Bldg., Washington, D. C.

Dec. 1–2—Connecticut Pomological Society 64th annual meeting, Hotel Bond, Hartford.—S. P. Hollister, Sec'y, Storrs.

Dec. 5–9—National Junior Vegetable Growers Association 20th annual convention Cincinnati, Ohio.—Grant B. Snyder, Adult Advisor, Univ. of Mass., Amherst.

Dec. 6–8—New Jersey State Horticultural Society annual meeting, Hotels Claridge and Marlborough-Blenheim, Atlantic City.—Ernest G. Christ, Sec'y, New Brunswick.

Dec. 6–8—Washington State Horticultural Assn. 50th annual meeting, Capitol Theater, Yakima.—John C. Snyder, Sec'y, Pullman.

Early Dec.—Peninsula Horticultural Society, Dover, Del.—Robt. F. Stevens, Sec'y, Newark, Del.

Dec. 13–14—Iowa State Vegetable Growers Association 41st annual meeting, Hotel Hanford, Mason City.—C. L. Fitch, Sec'y, Ames.

Dec. 16—Southern Minnesota Vegetable Growers Association annual meeting, Albert Lea.—Juel B. Nelson, Sec'y, Albert Lea.

Meetings in 1955

Jan. 5–6—Maryland State Horticultural Society 57th annual meeting, Hagerstown.—A. F. Vierheller, Sec'y, College Park.

Jan. 11–13.—Indiana Horticultural Society annual meeting, Murat Temple, Indianapolis.—R. L. Klackle, Sec'y, West Lafayette.

Jan. 19–20—Maine State Pomological Society annual meeting, Lewiston Armory, Lewiston.—F. J. McDonald, Sec'y, Monmouth.

Jan. 24–26—Virginia State Horticultural Society 59th annual meeting, Hotel Roanoke, Roanoke.—John F. Watson, Sec'y, Staunton.

Feb. 7–9—Ohio Vegetable and Potato Growers Association 40th annual convention, Neil House, Columbus.—E. C. Wittmeyer, Sec'y, Columbus.

Feb. 9–11—Ohio State Horticultural Society 108th annual meeting, Neil House, Columbus.—C. W. Ellenwood, Sec'y, Wooster.

Aug. 16–20—Centennial of Farm Mechanization, Michigan State College, East Lansing.—A. W. Farrall, Head, Agr'l Engng. Dept., MSC, East Lansing.

The sales department of the **Hardie Manufacturing Company,** Hudson, Mich., has been reorganized into two separate divisions. Clifton W. Dick, Jr., has been appointed sales manager of the pest control division, while James T. Grill is the new sales manager of the rain control portable sprinkler irrigation systems division. This streamlining of the sales department is expected to result in faster distribution and servicing of equipment.

Stone picking side delivery attachment shown here was developed at University of Maine. Picker removes stones two inches and larger to depth of three to seven inches first time over land. By going over land two or three times stones down to plow depth are removed.

PICK YOUR STONES By Machinery

New side delivery attachment has made stone picking an easy job

By F. W. PEIKERT

The author, F. W. Peikert, formerly head of the agricultural engineering department at the University of Maine, is now head of the agricultural engineering department at Pennsylvania State University.

IS stone picking one of the tasks you are still doing by hand? If so, it is now possible to do the job easier and more economically by machinery.

There are several commercial stone pickers on the market. If you have a potato digger, you may build your own stone picker or have it constructed in a local machine shop.

The agricultural engineering department of the University of Maine has recently developed a side delivery attachment for a two-row potato digger which readily converts the digger into a stone picker. The unit has a capacity of from five to seven acres a day. The attachment can be easily mounted on the rear of the digger and can be just as readily removed when the digger is again needed for harvesting potatoes.

The stone picking attachment consists of a six-foot cross conveyor mounted directly behind and below the digger bed. To this is attached an elevating conveyor which hinges on the cross conveyor and is supported by a caster wheel. The stones are carried by a rubber belt 14 inches wide which has steel link chains attached to both edges. The belt also has steel flights three inches high and spaced 16 inches apart to help carry stones up the incline.

The stones which are carried over the digger bed drop onto the conveyor where they are transported to a dump cart or truck driven alongside the machine. To obtain maximum capacity, it is desirable to have two or three vehicles for hauling the stones.

All stones approximately two inches and larger are removed to a depth of three to seven inches the first time over the land. The depth depends on the looseness of the soil and the power available from the tractor. By going over the land two or three times it should be possible to eliminate stones down to plow depth. On potato fields the best time for stone picking is immediately after digging.

Details of this unit are described in Bulletin 525 entitled, *A Side Delivery Stone Picker,* by Rodney O. Martin, which is available from Maine Agricultural Experiment Station, Orono, Maine. THE END

"Planting" BEAN POLES

Automatic pusher sets an acre of poles in an hour

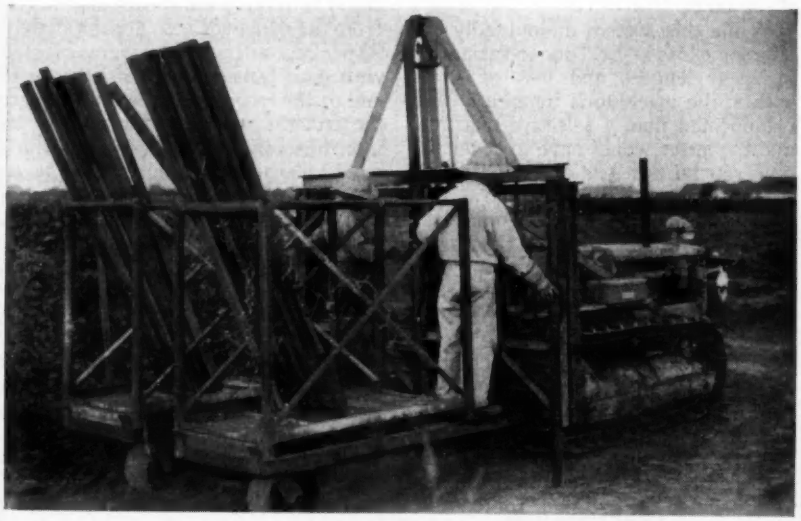
HARRY HILL, owner of the Hill Ranch, Bower's Lane, Santa Clara, Calif., literally "plants" his bean poles with an automatic pusher which he has invented. The pusher poles an acre an hour. Before its invention, Hill used 20 men a day to pole two acres by hand.

A hydraulic tank is attached to the tractor. It supplies power through a rubber hose to three small pile drivers which simultaneously drive three bean poles into the ground. The drivers are operated by a man standing on the conveyance attached behind the tractor. His job is to put the poles into fixed pieces of channel iron which act as guides for the poles, and then release the drivers.

In addition Mr. Hill has attached a fork-lift apparatus to the back of a John Deere tractor. He uses pallets out in the field in conjunction with the fork-lift tractor arrangement. His carefully kept cost records indicate that handling time for bean containers has been cut 63 per cent.—*John W. Aberle.*

Close-up of driving mechanism, showing hammer poised to strike. Channel iron guides pole.

Fork-lift device picks up basket of bean poles. Baskets are placed throughout field being poled. Thus a minimum of physical labor is involved.



Pole pusher attached to Caterpillar tractor has three channel irons and three drivers. Man on left operates a lever which causes hydraulically operated hammers to descend simultaneously on poles. The special steel braces running from tractor to pusher are for support purposes.

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Either under glass or in the field, Burpee Hybrid is the cucumber for you! Extremely vigorous, long-lived vines bear an abundance of handsome fruits 8 in. and more long, mature in 60 days, keep on producing U.S. No. 1 long after ordinary kinds have finished.

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AMERICAN VEGETABLE GROWER, published monthly at Willoughby, Ohio, for October 1, 1954.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, American Fruit Grower Publishing Company, Willoughby, Ohio; Editor, R. T. Meister, Willoughby, Ohio; Managing Editor, None; Business Manager, Edward L. Meister, Willoughby, Ohio.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.)

American Fruit Grower Publishing Company, Willoughby, Ohio; E. G. K. Meister, Willoughby, Ohio; Elsie K. Meister, Gates Mills, Ohio; Edward L. Meister, Willoughby, Ohio; R. T. Meister, Willoughby, Ohio.

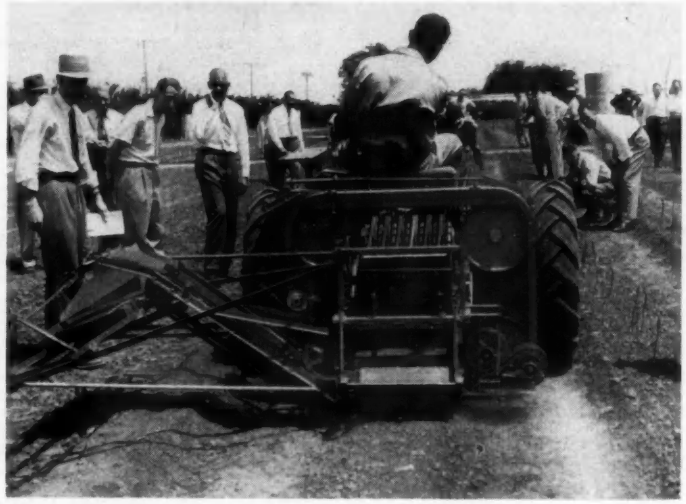
3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom each trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

Edward L. Meister,
Business Manager

Sworn to and subscribed before me this 15th day of September, 1954.

(Seal) **E. P. Jeanguenat**, Notary Public.
(My commission expires Sept. 17, 1956)



Asparagus harvester in operation in direct-seeded field. Band-saw blade passes around four large pulleys inside guards. At left is small trough tested during latter part of 1954 season.

UNTOUCHED BY HAND!

Mechanical harvester cuts 80 acres of asparagus, replaces 10 to 12 farm workers

By ROBERT A. KEPNER

University of California

RESULTS obtained with an experimental harvester during two seasons of field testing indicate that mechanical harvesting of green asparagus is feasible.

The experimental harvester, developed at the University of California, employs the principle of "set-level" cutting, in that all spears, regardless of length, are cut each time the machine is used. Cuttings are normally made at intervals of five to seven days.

While this system undoubtedly entails some loss in yield due to variations in spear lengths and loss of short spears, the machine is inherently less complicated than a selective machine, and the latter would have to cover the field several times as often. It is estimated that a one-row set-level machine of the type tested would take care of at least 80 acres of asparagus, replacing 10 to 12 hand cutters.

The machine illustrated operates at a speed of two and one-half miles per hour. It channels the standing spears into a series of rotating gripper units, each covering a two and one-half inch width across the asparagus bed. The gripper rings, faced with sponge-rubber, are supported by spring-wire spokes that allow lateral movement and provide the gripping force.

The two gripper rings of each unit are held apart in front where the standing spears enter, then gently grip the spears during cutting, and finally open up again at the rear to deposit the spears on a cross-conveyor belt. The experimental machine was designed to cover only a 15-inch width of bed (six gripper units), but additional gripper units could readily be added on a new machine to cover the greater widths of old bed plantings.

In trials with a series of small troughs (each four and one-half inches wide and two and one-half inches deep) to receive the spears discharged from the conveyor belt, approximately 90 per cent of the spears were oriented with their butt ends toward the outer end of the troughs. In the final design, the troughs would be attached to an intermittently-moving conveyor which would elevate the filled troughs to an appropriate location for hand removal and boxing by a man on the harvester.

Cutting is accomplished by means of a band-saw type of blade located two and three-fourths inches below the bottoms of the gripper rings. Cutting was ordinarily at a depth of about one-half inch below the surface of the asparagus bed. A gauge roller at the rear of the machine, supporting only 30 to 60 pounds of the total weight, runs on top of the asparagus bed to control the depth of cut.

Best results were obtained with a blade having four V-shaped teeth per inch (both sides of teeth sloped at 45°) and operating at a linear speed of

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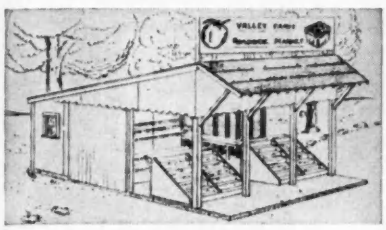
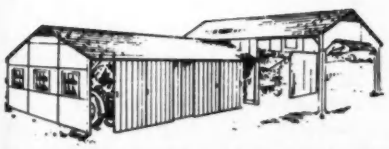
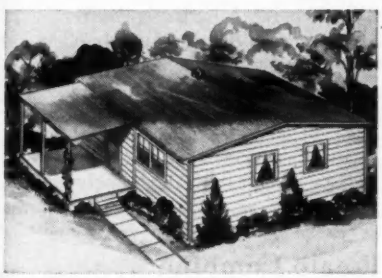
These three buildings are well designed, economical to construct, and will give many years of efficient service



This roadside market is designed to attract the customer's eye. There are two movable display racks in front of the market where the customer can stand under shade of overhanging roof.



The 24x24-foot machinery storage and repair shed is designed in a series of 12x24-foot bays. It is two stories high with a cement floor on the ground level and a wood floor on the second.



Basic tenant house can be built as a single or double unit. There are five different room arrangements, each containing a kitchen, two bedrooms, dining space, compact living room.

THESE PLANS ARE AVAILABLE

Working drawings showing construction details are included with the following plans:

Roadside Market	$ .50
Machinery Storage & Repair Shed	1.00
Tenant House	1.00

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Plans and Booklets Department
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City ..... State.....

about 1,700 feet per minute. The blades were made from 24-gauge wood-cutting band-saw blade material three-fourths inch wide. In an extremely abrasive soil, such as a sandy loam, the blade teeth would wear off in only four or five hours of use. But even under these severe conditions the total annual cost for blades should be less than $5 per acre. In peat soils a blade should last for several weeks, and the annual blade charge would be insignificant.

Since the gripping level of the machine is about three and one-fourth inches above the blade, very few spears shorter than three and one-half inches are recovered. In the 1954 tests, about 90 per cent of all spears longer than four inches were recovered and undamaged, and would be suitable for No. 1 canning or freezing asparagus under the California Marketing Order (1951-52). The set-level system of harvesting is more suitable for processed asparagus than for fresh-market asparagus, because of the greater length requirement for the latter. THE END

Field Conveyor

(*Continued from page 5*)

matoes, greens, cauliflower, and asparagus. Peppers and melons still must be tested. Greens, cauliflower, and asparagus could not be harvested to advantage through use of the conveyor.

On all the other crops tested, the rates of harvest per man-hour were increased at least 30 per cent and the average with experienced crews was 50 per cent. It is necessary to make a few minor changes on the delivery end of the conveyor to accommodate the various crops and containers used. Tests conducted so far indicate that from six to twelve acres can be harvested with the average six-man crew in an eight and one-half hour working day.

The field conveyor is still an experimental machine. To date no manufacturing company has indicated a definite interest in producing it, due to the uncertainty of demand. The design of the conveyor is so simple, however, that it can be built in any small machine shop or well equipped farm shop at a cost of less than $1,200 including labor. Detailed plans for the conveyor, complete with a list of materials, will be available in February, 1955, from the Department of Agricultural Engineering, University of Maryland, College Park, Md., at cost. THE END

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The new Dearborn heavy duty rotary blade mower cuts brush, hardwood sprouts, and thick weed growth quickly and efficiently. This 653-pound machine is attached directly to the Ford tractor, for which it was designed, and is lowered and raised hydraulically. The hardened steel alloy blades are driven by the tractor power take-off. A gauge wheel with puncture-proof tire provides a cutting height range of from two to 10 inches. All universal joints are shielded for safety. A rear adjustable floating shield and a front shield protect people working near the implement as well as the operator and tractor from flying debris. Write James Peddar, Tractor & Implement Div., Ford Motor Company, Birmingham, Mich., for full details.

Air Conditioned Mask

It's not much fun to wear a spray mask on a very warm day in the vegetable field. However, the recently developed Filtercool mask does away with the discomfort of high temperature and humidity. Exhaled air is drawn away by the tractor's air cleaner, actually making it easier to breathe. A perforated sponge cools the air as it enters the grower's lungs and in actual field tests has cooled 100° F. air down to 85° F. Here's real comfort! Why not write Maurice Kline, General Scientific Equipment Co., 27th & Huntingdon Streets, Philadelphia 32, Pa.

Fast Topper

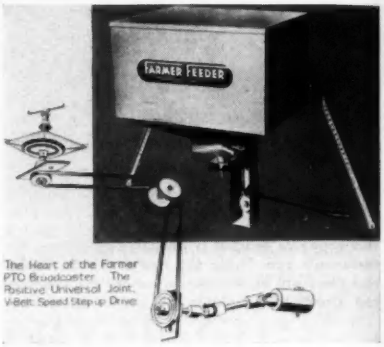
Top-free vegetables are no problem with an R & Z mechanical vegetable topper. From 45 to 60 bushels of radishes, carrots, or beets can be topped in an hour with the twin unit shown here. It will save many hours of labor, speed up rush orders, and enable the grower to deliver fresher vegetables to the market. Write R & Z Manufacturing Co., 1009 Sixth St., Oshkosh, Wis., for the full facts.

Soil Analysis

One of the bases to scientific farming is soil analysis. Soil requirements can be easily determined with easy-to-use soil testing equipment. An inexpensive soil testing outfit is the Simplex made by Edwards Laboratory, Norwalk, Ohio. The results are given in parts per million (ppm), in pounds per acre, and in pounds per 1,000 square feet, as well as low, medium, and high. If your soil has not been tested, write Edwards.

Be sure to mention AMERICAN VEGETABLE GROWER when writing these companies.

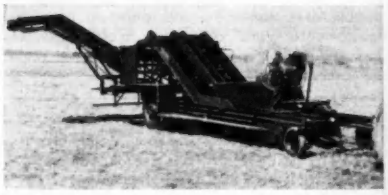
Seed Broadcaster



The Heart of the Farmer PTO Broadcaster. The Positive Universal Joint, V-Belt Speed Step-up Drive.

By means of a new power take-off sleeve and universal joint, a seeder, developed by Farmer Feed Co., Inc., spreads all kinds of seed and granulated fertilizer uniformly. Proper fan speed is the secret of the uniform broadcasting, and this is achieved by ample power and a V-belt speed step-up. Distribution is in a half-moon pattern behind the tractor without the use of any shield. The operation is unusually fast, covering up to 20 acres per hour. The new P-T-O broadcaster is available in both one and one-half- and five-bushel sizes. For complete information write Don Golay, Farmer Feeder Co., Inc., Cambridge City, Ind.

Potato Combine



If you are a large grower, you'll want information on the Dahlman two-row potato combine shown in the photograph. If you are a grower who has less than 50 acres, the single-row combine will harvest up to 12 acres daily. Here is a real labor saver which will reduce potato harvesting costs as much as 40 per cent. You can now eliminate the difficulty of finding hand pickers and at the same time do a better and quicker potato harvesting job. Write Dual Manufacturing and Sales, Inc., 293 Snelling Ave., North, Saint Paul 4, Minn.

Designed and
digs 240 to 2
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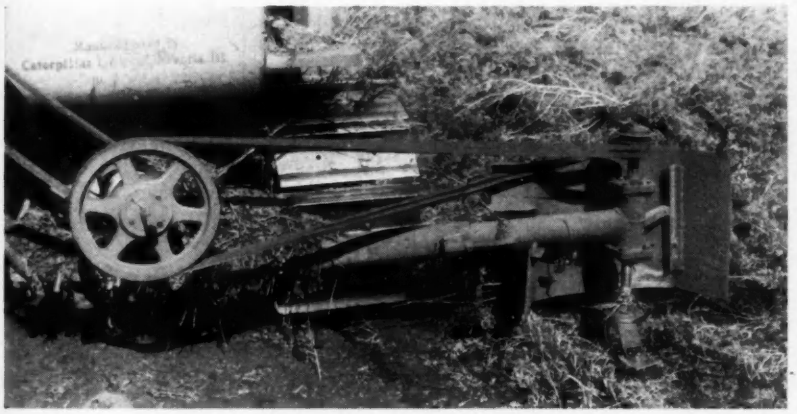
Tops of carro
harvester digs

The digging m
lifts the carrot
carrots to the
undesirable ca

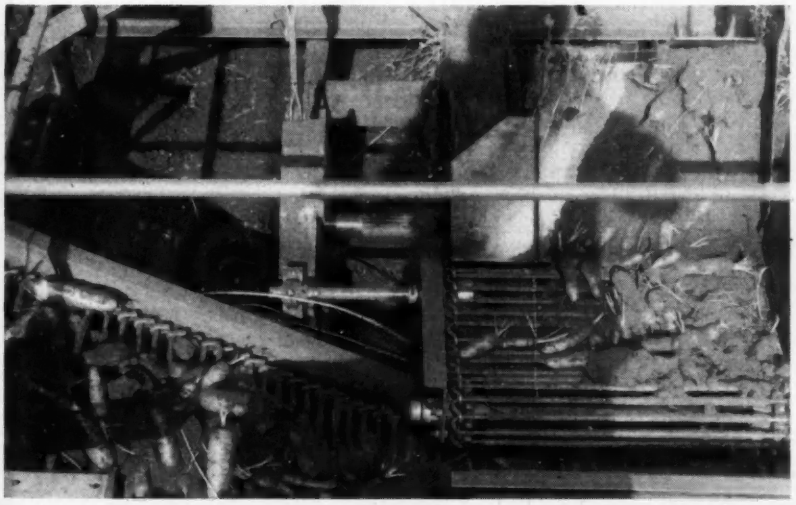
Designed and built by Howard Ruetenik, owner of Ruetenik Gardens, Orwell, Ohio, the harvester digs 240 to 250 crates of carrots per hour at a cost of four cents per crate for a 65-acre crop, as compared with 15 cents per crate by the hand method of stooping and pulling. Digging attachment fits on the front of a D-2 Caterpillar. A series of conveyor chains and the wagon trail behind.

CARROT HARVESTER

Nine-man crew mans machine replacing dozens of workers



Tops of carrots are clipped off by rotating knife at right, powered from power take-off. As harvester digs one row, tops are clipped from next row. Carrots are packaged in transparent bags.



The digging mechanism. Two large discs cut along each side of the row. A finger following behind lifts the carrots onto a short conveyor as the discs move forward. Another conveyor carries the carrots to the long conveyor alongside tractor where a nine-man crew sorts out lumps of dirt and undesirable carrots. Harvester handles carrots gently to keep bruising and scuffing at a minimum.

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The Dramatic Effect of Mechanization

A STUDY of the trend in production of a crop is frequently startling enough to make one stop and think. Figures as reported in USDA's *Agricultural Statistics* certainly give the answers to some questions that cannot be denied. Below are listed a few facts concerning the changes in green pea production during the past 20 years.

Fresh Peas for Market:

Year	Acreage	Production (bushels)	Farm Value (dollars)
1933	109,000	9,100,000	8,300,000
1943	63,000	6,100,000	14,000,000
1953	12,570	1,350,000	3,300,000

Peas for Canning and Freezing:

Year	Acreage	Production (bushels)	Farm Value (dollars)
1933	217,000	137,000	5,800,000
1943	432,000	412,000	33,000,000
1953	430,640	461,000	43,000,000

Twenty years ago the actual farm value of fresh market peas was about 50 per cent greater than that of the processing crop. Today, the processing acreage is worth 13 times as much. Only one-eighth as many peas are picked by hand today as were picked 20 years ago, whereas about twice as many are harvested for processing by machinery.

This change cannot be due to the fact that processing peas are now of relatively more value than market peas, because the figures show that growers are being paid relatively more for the market than for the processing crop. Productivity problems are not the answer, as yields per acre are up about 30 per cent for the market crop and about 60 per cent for the processing crop.

The above pea data tell a story in mechanization. Market peas require more hand labor per unit of product than any other important food product, while processing pea production is one of the most highly and completely mechanized enterprises in agriculture.

Twenty years ago as many as 200 persons would be found picking peas in a 40-acre field. They were paid 10 to 12 cents for filling an eight to nine-cent bushel hamper. Today, if that many people could be induced to stoop over, their rate of pay would be 40 to 70 cents per hamper and their hampers would cost 25 to 30 cents.

This must be one of the reasons why the 53,000 acres of peas grown for market in California in 1933 shrank to 6,300 acres in 1953. Labor and packaging costs, where they are major cost factors, are constantly becoming more acute. It was probably easier to get the pea crop harvested and there was probably as much profit in it at 93 cents a bushel in 1933 as there was in 1953 at $2.43 per hamper.

Since 1933, 100,000 more acres have been planted for canning and an additional 110,000 acres have been added for freezing. The only time a processing pea is handled is when it rolls off the fork onto the table. Gang seeders and recently introduced combine-like harvesters are drastically reducing the man-hours required to harvest a ton of shelled peas, and these combines are capable of turning out a product that, due to the rapidity of their operation, loses very little of its quality before it is processed.

A pea harvester can be worked around the clock if necessary to harvest the crop at top quality. Peas lose quality rapidly and frequently the fresh market product loses most of its delectability between the field and the table due to slow handling and improper refrigeration. Two pounds of peas in the pod will shell out about the same weight as contained in a frozen package. Today's homemaker, due to the rapid tempo of modern living, doesn't feel she has the time that grandmother had to sit and give her feet a rest while shelling peas and indulging in some reflective thinking.

The survival of some other crops may depend on the ability to further mechanize their production, reduce labor, packaging, and handling costs. The lima bean crop (butter beans in the South) may be next to succumb. On the brighter side, the recent mechanization of the harvesting and packaging of radishes has certainly given that crop a boost. The changing picture with peas indicates the necessity with other crops to strive for an increased mechanization of all operations and vigilant attention to quality maintenance.

Follow the Guides

EACH year the USDA issues a series of guides which are designed to assist vegetable and potato growers in planning production for the coming year. There's nothing compulsory about following these recommendations, but for the good of the industry growers should give them careful attention. The suggested acreage goals attempt to keep production in line with demand. As demand increases production can also be increased. But such a healthy, stable vegetable and potato economy can be maintained only through vigorous promotion and sale of high quality products.

Guides have been issued thus far for 17 major winter vegetables that will be marketed in fresh form, principally during the first three months of 1955, and for 1955 winter season early commercial potatoes. Recommendations are for cuts of four per cent in total acreage for fresh winter vegetables, and a reduction of 10 per cent in 1955 winter season potatoes.

The 1955 winter vegetable guides suggest acreage increases only for sweet corn and shallots. Acreage cuts are recommended for snap beans, beets, broccoli, cabbage, cauliflower, celery, cucumbers, escarole, kale, lettuce, and tomatoes. No acreage change is suggested for lima beans, carrots, green peppers, and spinach.

The guide for early winter commercial potatoes suggests a 10 per cent acreage decrease in Florida, with no change in Texas. These are the only two winter potato-producing states.

Total acreage recommended in the guides for the 17 winter vegetables is 249,550 acres, 10,890 acres less than for the winter of 1954. The 1955 winter potato acreage guide is 10,950 acres, 1,150 acres under that of last winter. Winter vegetables represent about 13 per cent of the total annual acreage of vegetables for fresh market sale. Winter potatoes represent less than one per cent of the total annual potato crop.

Growers in the winter vegetable states can obtain the detailed report, "1955 Acreage and Marketing Guides, Winter Vegetables for Fresh Market," from their state extension service.

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